In the Claims:

Please cancel claim 17. Please amend claims 18 and 20-28. The claims are as follows:

1. (Original) A method, comprising the following steps of in the indicated sequential order:

melting an end of an optical fiber while the end is above, but not touching, an exposed surface of a substrate such that said end becomes molten end, said optical fiber being substantially optically transparent to laser radiation of a given wavelength;

moving the molten end toward the exposed surface of the substrate until the end makes physical contact with the exposed surface of the substrate, said moving being performed sufficiently fast so that the end is still molten when the end initially makes said physical contact with the exposed surface of the substrate; and

maintaining said physical contact for a sufficient length of time to enable the end to bond to the exposed surface of the substrate with no intervening matter between the end and the exposed surface of the substrate.

2. (Original) The method of claim 1, wherein said melting comprises exposing the end to an electric arc disposed between a pair of electrodes.

3. (Original) The method of claim 1, wherein said moving comprises moving the optical fiber through an anchored feed nozzle that facilitates the molten end moving in a fixed direction toward the exposed surface.

4. (Original) The method of claim 1, wherein said moving comprises squeezing side clamps of a capillary that engages the optical fiber proximate the end, and wherein said squeezing imparts a force to the molten end causing the molten end to move toward the exposed surface of the substrate and make said physical contact with the exposed surface of the substrate.

5. (Original) The method of claim 4, wherein said maintaining said physical contact comprises further squeezing said side clamps while the end is making said physical contact with the exposed surface of the substrate, said further squeezing causing said physical contact to be maintained.

6. (Original) The method of claim 1, wherein the substrate comprises an optical receiver, and wherein the method further comprises after the maintaining step: receiving said laser radiation by said optical receiver at said bonded end after said laser radiation has propagated through the optical fiber to said bonded end.

7. (Original) The method of claim 1, wherein after the maintaining step: transmitting said laser radiation, by a laser source in a region within the substrate, to the exposed surface of the substrate and then into the bonded end of the optical fiber.

8. (Original) The method of claim 7, wherein the laser source is a Vertical Cavity Surface Emitting Laser (VCSEL), and wherein the substrate is substantially optically transparent to said laser radiation in an optical path in the substrate between the VCSEL and the bonded end of the

optical fiber.

9. (Original) The method of claim 1, said substrate being a first substrate, said end being a first end of the optical fiber, said method further comprising:

orienting a second end of the optical fiber toward an exposed surface of a second substrate that is substantially optically transparent to the laser radiation;

melting the second end of the optical fiber while the second end is above, but not touching, the exposed surface of the second substrate such that the second end becomes molten, said optical fiber being continuous and integral from the first end to the second end;

moving the molten second end toward the exposed surface of the second substrate until the second end makes physical contact with the exposed surface of the second substrate, said moving being executed sufficiently fast so that the second end is still molten when the second end initially makes said physical contact with the exposed surface of the second substrate; and

maintaining said physical contact for a sufficient length of time to enable the second end to bond to the exposed surface of the second substrate with no intervening matter between the second end and the exposed surface of the second substrate.

10. (Original) The method of claim 9, wherein said orienting comprises rotating an end portion of the optical fiber, wherein the end portion includes the second end.

11. (Original) The method of claim 9, further comprising prior to said orienting: severing away a terminal portion of the optical fiber at a location along the optical fiber.

12. (Original) The method of claim 9, further comprising after said orienting: severing away a terminal portion of the optical fiber at a location along the optical fiber.

13. (Original) The method of claim 9, further comprising: transmitting said laser radiation, by a laser source located in a region within the first substrate, to the exposed surface of the first substrate and then into the first end of the optical fiber and then through the optical fiber to the second end of the optical fiber and into the second substrate.

14. (Original) The method of claim 13, wherein the laser source is a Vertical Cavity Surface Emitting Laser (VCSEL), wherein the first substrate is substantially optically transparent to said laser radiation in an optical path in the first substrate between the VCSEL and the bonded end of the optical fiber, and wherein the second substrate comprises an optical receiver.

15. (Original) The method of claim 1, wherein the wavelength is in a range of 780 to 1550 nanometers.

16. (Original) The method of claim 1, wherein the substrate comprises a material selected from the group consisting of SiGe, GaAs, AlGaAs, and InGaAs.

17. (Canceled)

18. (Currently amended) ~~The structure of claim 17~~ A structure, comprising:

a first substrate having a front surface;

a second substrate having a front surface; and

at least one optical fiber having a first end and a second end, said optical fiber being substantially optically transparent to laser radiation of a given wavelength, said optical fiber being continuous and integral from the first end to the second end, said first end being directly bonded to the front surface of the first substrate with no intervening matter between the first end and the front surface of the first substrate, said second end being directly bonded to the front surface of the second substrate with no intervening matter between the second end and the front surface of the second substrate, wherein a laser source in a region within the first substrate is adapted to emit said laser radiation and transmit the emitted laser radiation from the laser source to the first end of the optical fiber and through the optical fiber to the second end of the optical fiber and then into the second substrate, wherein said region in which the laser source is located comprises a back surface of the first substrate, and wherein the back surface of the first substrate is opposite the front surface of the first substrate.

19. (Original) The structure of claim 18, wherein the laser source is a Vertical Cavity Surface Emitting Laser (VCSEL), wherein the first substrate is substantially optically transparent to said laser radiation in an optical path in the first substrate between the VCSEL and the first end of the optical fiber, and wherein the second substrate comprises an optical receiver.

20. (Currently amended) The structure of claim ~~17~~ 18, wherein said at least one optical fiber consists of at least two optical fibers, wherein two of said at least two optical fibers are spaced

apart by no more than about 10 mils.

21. (Currently amended) The structure of claim ~~17~~ 18, wherein the front surface of the first substrate and the front surface of the second substrate are coplanar.

22. (Currently amended) ~~The structure of claim 17~~ A structure, comprising:

a first substrate having a front surface;

a second substrate having a front surface; and

at least one optical fiber having a first end and a second end, said optical fiber being substantially optically transparent to laser radiation of a given wavelength, said optical fiber being continuous and integral from the first end to the second end, said first end being directly bonded to the front surface of the first substrate with no intervening matter between the first end and the front surface of the first substrate, said second end being directly bonded to the front surface of the second substrate with no intervening matter between the second end and the front surface of the second substrate, wherein the front surface of the first substrate and the front surface of the second substrate are at a nonzero angle with respect to each other such that the nonzero angle is unequal to 90 degrees.

23. (Currently amended) The structure of claim ~~17~~ 18, wherein the first and second substrates are comprised by a device.

24. (Currently amended) The structure of claim ~~17~~ 18, wherein the first substrate is comprised by

a first device, and wherein the second substrate is comprised by a second device.

25. (Currently amended) The structure of claim 17 A structure, comprising:

a first substrate having a front surface;

a second substrate having a front surface; and

at least one optical fiber having a first end and a second end, said optical fiber being substantially optically transparent to laser radiation of a given wavelength, said optical fiber being continuous and integral from the first end to the second end, said first end being directly bonded to the front surface of the first substrate with no intervening matter between the first end and the front surface of the first substrate, said second end being directly bonded to the front surface of the second substrate with no intervening matter between the second end and the front surface of the second substrate, wherein the first substrate comprises a first material that is substantially transparent to the laser radiation, and wherein the second substrate comprises a second material that is substantially transparent to the laser radiation, and wherein the second material differs from the first material.

26. (Currently amended) The structure of claim 17 A structure, comprising:

a first substrate having a front surface;

a second substrate having a front surface; and

at least one optical fiber having a first end and a second end, said optical fiber being substantially optically transparent to laser radiation of a given wavelength, said optical fiber being continuous and integral from the first end to the second end, said first end being directly

bonded to the front surface of the first substrate with no intervening matter between the first end and the front surface of the first substrate, said second end being directly bonded to the front surface of the second substrate with no intervening matter between the second end and the front surface of the second substrate, wherein the first substrate comprises a material that is substantially transparent to the laser radiation, and wherein the second substrate comprises the material.

27. (Currently amended) The structure of claim ~~17~~ 18, wherein the substrate comprises a material selected from the group consisting of SiGo, GaAs, AlGaAs, and InGaAs.

28. (Currently amended) The structure of claim ~~17~~ 18, wherein the wavelength is in a range of 780 to 1550 nanometers.

29. (Original) A system, comprising:

means for melting an end of an optical fiber while the end is above, but not touching, an exposed surface of a substrate such that the end becomes molten, said substrate being substantially optically transparent to laser radiation of a given wavelength, said optical fiber being substantially transparent to laser radiation of a given wavelength;

means for moving the molten end toward the exposed surface of the substrate until the end makes physical contact with the exposed surface of the substrate, said moving being performed sufficiently fast so that the end is still molten when the end initially makes said physical contact with the exposed surface of the substrate; and

means for maintaining said physical contact for a sufficient length of time to enable the end to bond to the exposed surface of the substrate.

30. (Original) The system of claim 29, wherein said means for moving comprises means for constraining the molten end to move in a fixed direction toward the exposed surface.

31. (Original) The system of claim 29, wherein the substrate comprises an optical receiver, said system further comprising means for receiving said laser radiation by said optical receiver at said bonded end after said laser radiation has propagated through the optical fiber to said bonded end.

32. (Original) The system of claim 29, further comprising means for transmitting said laser radiation from within the substrate to the exposed surface of the substrate and then into the bonded end of the optical fiber.

33. (Original) The system of claim 32, wherein the means for transmitting comprises a Vertical Cavity Surface Emitting Laser (VCSEL), and wherein the substrate is substantially optically transparent to said laser radiation in an optical path in the substrate between the VCSEL and the bonded end of the optical fiber.

34. (Original) The system of claim 29, said substrate being a first substrate, said end being a first end of the optical fiber, said system further comprising:

means for orienting a second end of the optical fiber toward an exposed surface of a

second substrate;

means for melting the second end of the optical fiber while the second end is above, but not touching, the exposed surface of the second substrate such that the second end becomes molten, said optical fiber being continuous and integral from the first end to the second end;

means for moving the molten second end toward the exposed surface of the second substrate until the second end makes physical contact with the exposed surface of the second substrate, said moving being executed sufficiently fast so that the second end is still molten when the second end initially makes said physical contact with the exposed surface of the second substrate; and

means for maintaining said physical contact for a sufficient length of time to enable the second end to bond to the exposed surface of the second substrate with no intervening matter between the second end and the exposed surface of the second substrate.

35. (Original) The system of claim 34, wherein said means for orienting comprises means for rotating an end portion of the optical fiber, wherein the end portion includes the second end.

36. (Original) The system of claim 34, further comprising means for severing away a terminal portion of the optical fiber at a location along the optical fiber.

37. (Original) The system of claim 34, further comprising means for transmitting said laser radiation from within the first substrate to the exposed surface of the first substrate and then into the bonded first end of the optical fiber.

38. (Original) The system of claim 37, wherein the means for transmitting comprises a Vertical Cavity Surface Emitting Laser (VCSEL), and wherein the first substrate is substantially optically transparent to said laser radiation in an optical path in the first substrate between the VCSEL and the bonded first end of the optical fiber, and wherein the second substrate comprises an optical receiver.

39. (Original) The system of claim 29, wherein the substrate comprises a material selected from the group consisting of SiGe, GaAs, AlGaAs, and InGaAs.

40. (Original) The system of claim 29, wherein the wavelength is in a range of 780 to 1550 nanometers.